total control®

Owner's Manual

MRX-20
Advanced Network System Controller

URC®
Control the Experience.

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Programmable Only by URC Professional Installers

To fully automate your audio/video system, the installer must have detailed knowledge of each component, LAN configuration, Wi-Fi optimization, the URC product, its accompanying software and how the system is connected and operated.

URC software is available ONLY to a trained and certified professional audio/video installer. Although technical assistance is available, it is offered to our certified professional installers who can install a URC controller in a timely and efficient manner.

About URC

For 25 years URC has been setting the higher standard for control technology with continuous research and development. Headquartered in Harrison, N.Y., the company has been the leading supplier of high quality remotes and is broadly regarded as the leading control manufacturer by consumers, subscription broadcast providers, retailers, custom installation professionals and OEM partners.

- Celebrating 25 years as the leading supplier of universal remote controls
- More than 100 million remotes supplied in the past 10 years alone
- Solutions that span every control market, from subscription broadcast to complete home and commercial automation
- Consistently ranked the #1 brand in custom remote and whole-house control markets

Need Help?

If you are in need of assistance,
please be sure to contact your URC Professional Installer.

Installer's Name:_____
Contact Info:_____
Installation Date:_____
Serial #:_____
MAC Address (if any):_____

URC Tech Support is also there for you.
Contact us by phone or email at:
Toll Free: 1-800-801-0900
Email: techsupport@universalremote.com

Our mission across all of our products and markets is to be the best provider of integrated control solutions that make life better and easier for our customers worldwide.

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Chapter 1: MRX-20 Overview

Congratulations! 1

Features and Benefits 1

Parts Guide 1

Expanding your System 2

Front Panel Descriptions 3

Rear Panel Descriptions 4

Chapter 2: Using Your System

Navigating the On-screen Menu 6

On-screen Menu Options Overview 7

Using the On-screen Menus 8

Add a Slideshow using Photo Viewer 22

Adjusting the Settings 25

Chapter 3: Technical Details

Installation 30

Specifications 35

Chapter 4: Warranty and EULA

Limited Warranty 36

End User Agreement 38

Chapter 1: MRX-20 Overview

Congratulations!

Thank you for purchasing URC's Total Control MRX-20 Advanced Network System Controller. The unit features an intuitive and interactive on-screen interface providing control of every connected device throughout the entire home. Now you can control your home theatre, lights, view the front door and so much more... from the comfort of your seat.

Features and Benefits

- Easily control any connected device in any room using intuitive motion based control right on your display device. (Umotion control requires an optional TRG-100 or TRG-200 remote.)
- The MRX-20 acts as a main central processor for Total Control systems, by storing all device commands and activities or devices that may be controlled using IR *(Infrared)*, IP *(Internet Protocol)*, RS-232 *(Serial)* or Relay and 12V trigger devices.
- View your favorite pictures stored on Google+ using the MRX-20's on-screen Photo Viewer screensaver.
- Easy system and program maintenance using URC's offsite programming capabilities. *(Must be configured by your URC Professional Installer.)*
- Capable of showing a camera pop-up when triggered by URC's optional sensors. *(Must be programmed by your URC Professional Installer.)*
- View your favorite channels right on your screen with URC's Favorite Channel pop-up.
- Easy rack-mounting via optional RMK-2 rack mounting kit.

Parts Guide

The MRX-20 Advanced Network System Controller includes:

1 - MRX-20 Advanced Network System Controller
1 - Power Cord
10 - IR Emitters with standard 3.5mm plugs

Expanding your System

Expand the MRX-20's capabilities throughout the entire home by using our URC user interfaces, in-wall controllers, z-wave devices and music players. Simply integrate any of just a few of the URC products listed below for extensive control.

User Interfaces

Combine our handheld controllers along with your new technology to control your home theatre, lighting and more, right from the comfort of your seat.

In-Wall Controllers

Keypads provide you with convenient access to anything your URC system can control. These are available as simple keypads or fully functional graphic displays.

Music

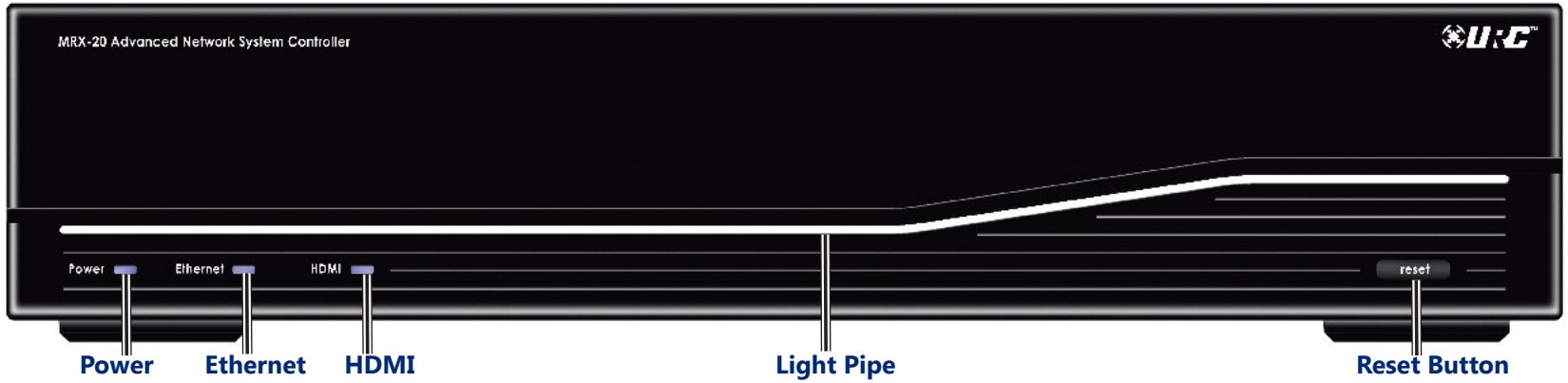
Listen to your favorite music services like Rhapsody, SiriusXM, Pandora and more using the SNP-2 streaming music player.

Easily access your personal music collections via iTunes including playlists, Windows Media Player, or compatible network attached storage drives (NAS).

Z-Wave Integration

Easily integrate and control an extensive collection of Z-Wave devices ranging from lights and door locks to thermostats and so much more. The TRF-ZW1 takes your system to the next level of automation.

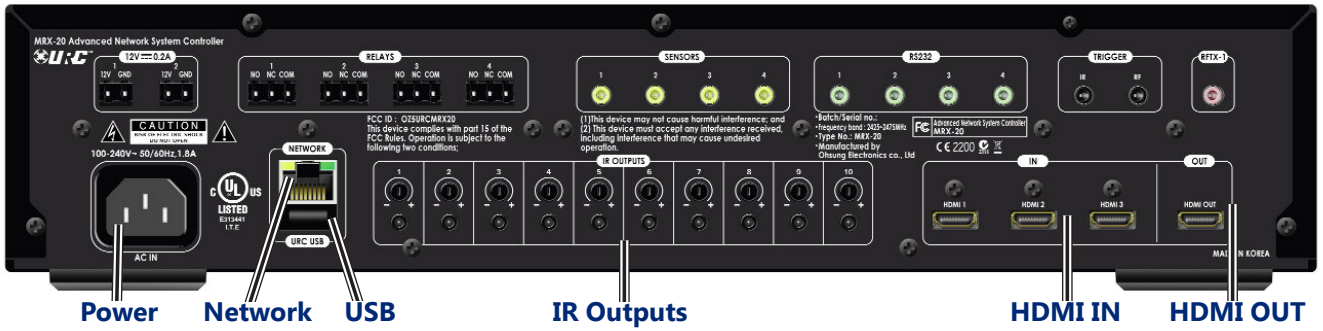
MRX-20 Front Panel Descriptions



Front Panel Description	
Power	Illuminates when unit is ON.
Ethernet	LED indicates: • Illuminated: Connected • Blinks: Not connected
HDMI	LED indicates: • Illuminated: Connected • No illumination: Not connected • Flashing: Issue, check source
Reset	When pressed, resets the unit. Resetting does not lose its programming.
Light Pipe	Attractive illumination signaling the unit is ON.

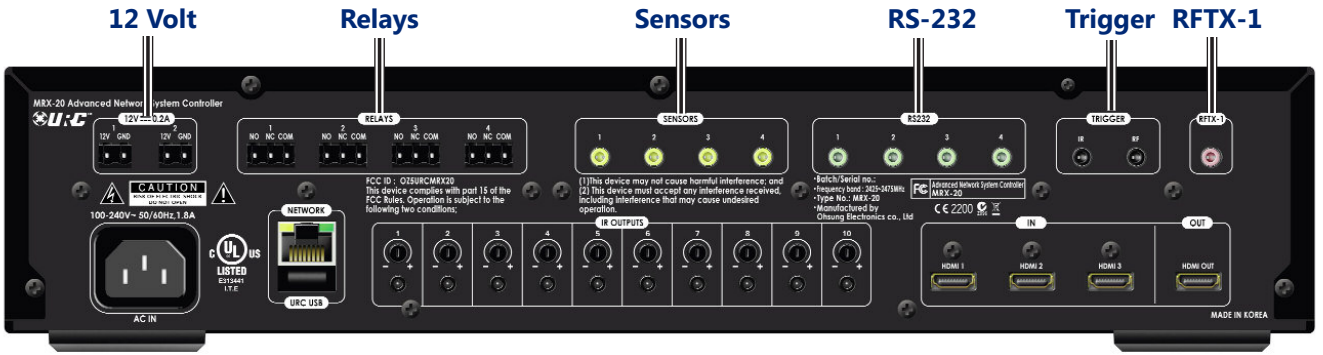
Pressing and holding the Reset button for 15 seconds WILL erase all programming and return the MRX-20 to its original factory condition.

MRX-20 Rear Panel Descriptions



Rear Panel Descriptions	
Power	Port used to connect power cable.
Network	Port used to connect ethernet cable to communicate over the network.
USB	For future use!
IR Outputs	Ten 3.5mm IR emitter ports (each with output level attenuators.)
HDMI IN	Three HDMI IN ports for transmission of digital HD video
HDMI OUT	One HDMI OUT port used to connect a display device.

MRX-20 Rear Panel Descriptions



Rear Panel Descriptions	
12 Volt	Two programmable 12V/0.2A outputs. Each may be programmed to turn ON, OFF or momentarily TOGGLE its output.
Relays	Four programmable relays that maybe set to normally opened (NO), normally closed (NC) or momentary contacts. A maximum of 30V/.5A per relay.
Sensors	Four sensor ports allow programming of state dependent and triggered macros. Compatible with URC Sensors: Audio(SEN-AUD),Video (SEN-VID), Voltage (SEN-VOLT), Current (SEN-CMF), Contact Closure (SEN-CCLS) and Light (SEN-LITE).
RS-232	Four RS-232 ports support TX (Transmit), RX (Receive) and GND (Ground) connections for one-way/two-way communication. Compatible with URC cables RS232F and RS232M.
Trigger IN	For future use!
RFTX-1	Attach an optional RFTX-1 transmitter to work with compatible URC devices.

Chapter 2: Using Your System

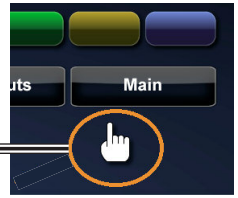
Navigating the MRX20's On-screen Menu

Navigating the MRX20's on-screen menu is very simple with our URC User Interfaces such as the TRG-100/TRG-200 Umotion remotes, or URC's wide assortment of handheld, in-wall, Android and iOS controllers.

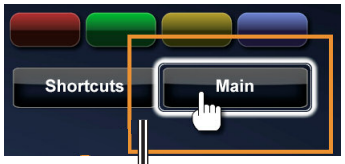
Using the TRG-100/200

While using the TRG-100/TRG-200 remote, press the **Umotion** button to activate the on-screen cursor and Umotion movement. Point the remote at the on-screen display and move the remote. The cursor is synchronized with the remote's movement. Move the cursor around the interface. Hover over a button to reveal it's hovered state. Then press the **Umotion** button again to make a selection.

Umotion button



Cursor



Hovered State

Using other Total Control User Interfaces

Use the interfaces **navigational buttons** (up, down, left or right) to move the cursor around the on-screen interface. Then press the **select** button to make a selection.

Hard button remotes

Touch screen remotes

On-screen Menu Options Overview

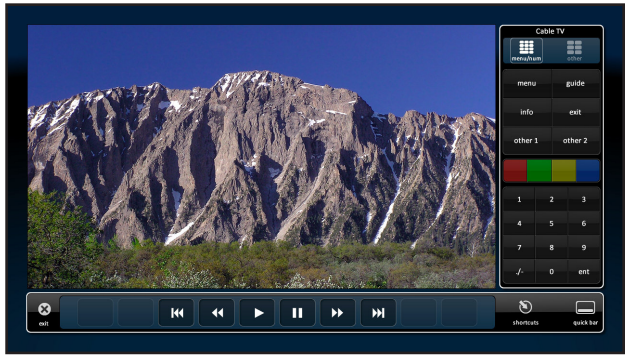
Select a menu title to learn more.

Main Menu

The **Main Menu** allows control of any "connected device" in the Total Control System.

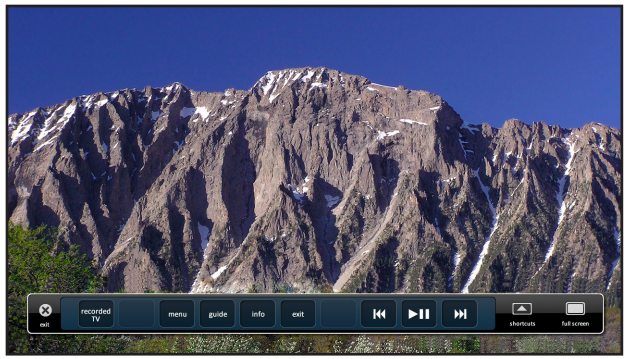
Device Menu

Use the **Device Menu** to access all of a device's commands.



Quick Bar Menu

The **Quick Bar** menu was designed to contain up to ten of the most used commands for the current device. These are programmed and edited by your URC Professional Installer.

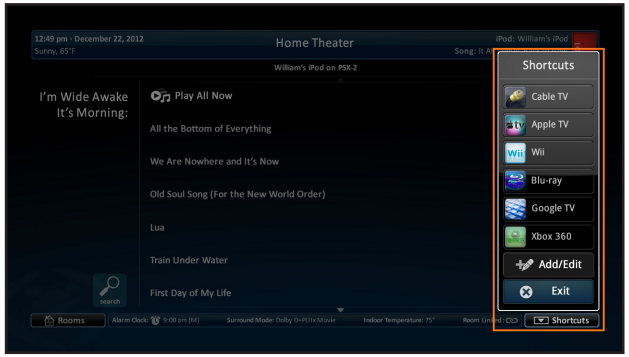


Favorites Menu

This menu provides instant access to your **Favorite Channels**, like ABC, HBO, etc... These channels are set by your custom installer.

Shortcuts Menu

This user adjustable menu, **Shortcuts**, allows you to add common activities (like Watch TV, Listen to Radio, etc.) for easy access. Although any of these actions can be accomplished using the Main Menu (see below), this converts multi-button presses to a single-click action.

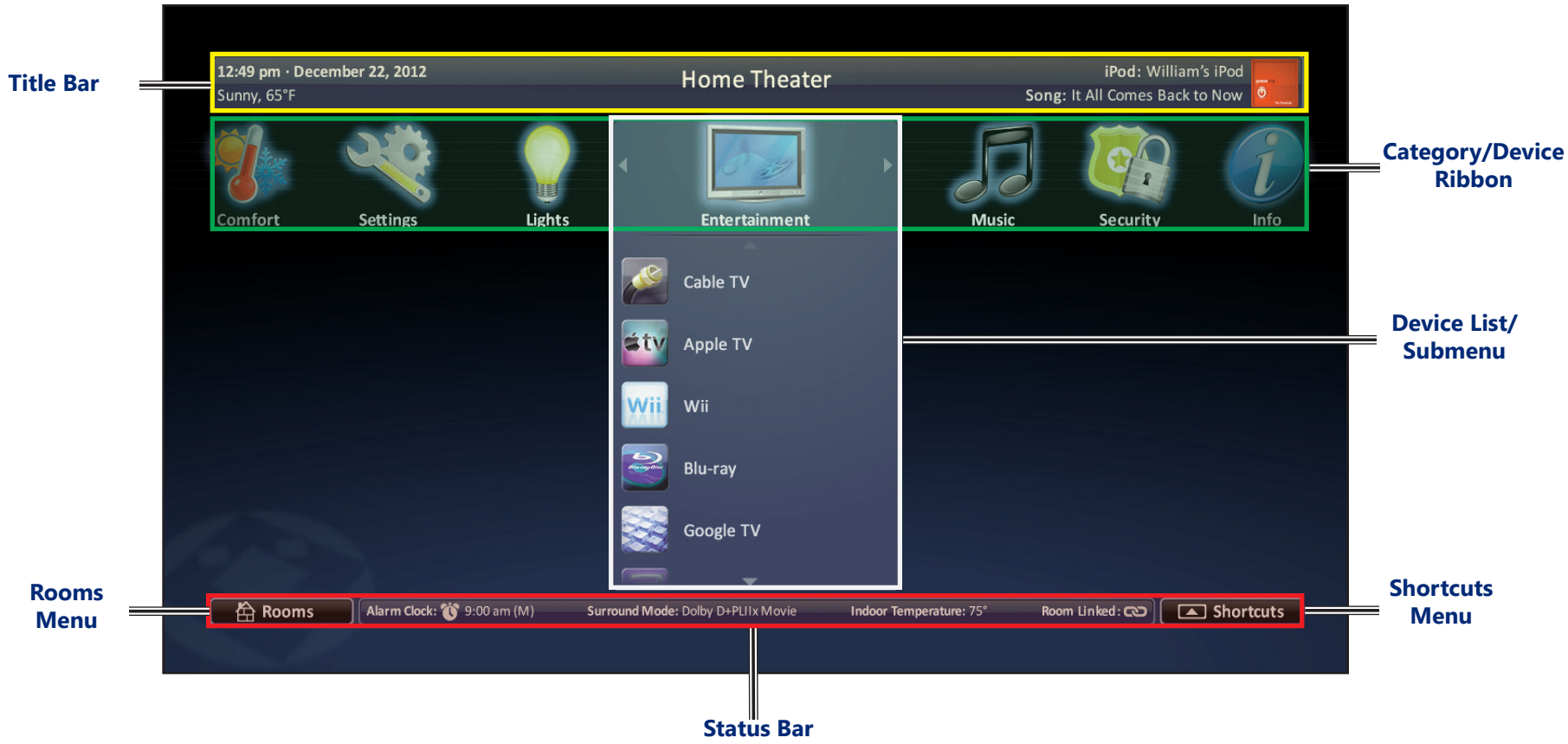


Using the On-screen Menus

Main Menu

The **Main Menu** accesses any "connected device" in your Total Control System. Depending upon programming, most device /activities will be placed into subfolders (like Music, Entertainment, etc.). Accessing these subfolders will allow you to control any device that is available in the chosen room (see *Rooms Menu*).

While using a TRG-100/200 remote, press the **Main** button to access the Main Menu's on-screen interface. Pressing the **Umotion** button activates the remote's motion control. Move the remote around the on-screen interface to reveal the on-screen cursor. Hover over a button and press the **Umotion** button again to make a selection.



Title Bar

The **Title Bar** contains valuable information during normal use. Easily find out the time, weather, now playing information and the room that the MRX is controlling.

Time & Weather

This data, found on the left-hand side of the **Title Bar,** shows the current time, date and weather information. Clicking this area opens the **Settings** menu.

Current Room

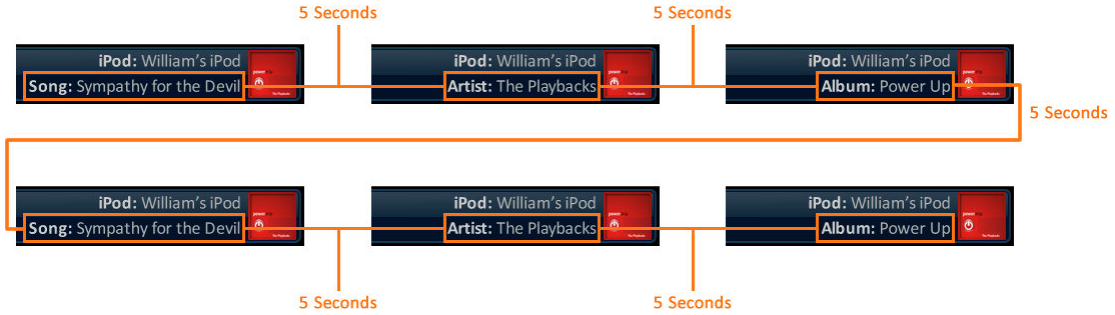
The current room portion of the **Title Bar** shows the room that the MRX-20 is controlling. Remember, in a Total Control system, the MRX-20 will **default** to control the room in which it is placed. Use the **Rooms Menu** to control any other room in the system.

Now Playing

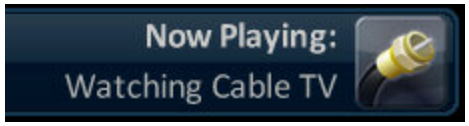
Appearing on the right-hand side of the **Title Bar**, this displays the source that is currently being used in the room.

- The Now Playing area display's the **device** currently in use (in this case, William's iPod), **device icon**, and **metadata information**. This information is displayed since it is a URC media device.

*The metadata will change, every 5 seconds, rotating between **song, artist** and **album**.*



- Any current room activity, like DVD or Cable, is shown within the Now Playing section.



Displays current activity within a room, such as Watching Cable TV.

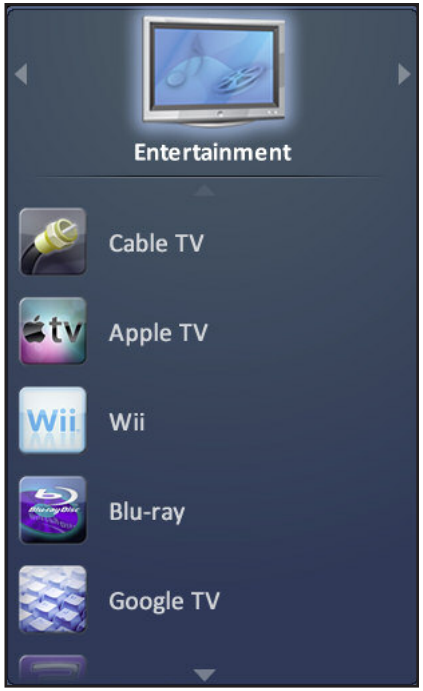
Categories/Devices Ribbon

This ribbon shows the various categories of control that are available to the selected room. The quantity of categories is determined by the system setup and can vary from one to multiple categories programmed by the system designer. Although only seven categories can fit on the screen at any moment, navigate left or right to other categories, if available.

Select a **category** by hovering over the icon then pressing the **Umotion** button or using the five-way navigation cursor to select; this reveals the devices/activities available for that category (submenus).

Device List

Submenus contain the devices/activities that were placed in the chosen category by the system programmer. With the Umotion control, use the device list's **Up** or **Down** arrows to move the list in the desired direction. Hover over a device/activity to select its icon by pressing the **Umotion** button.



Status Bar

The **Status Bar,** located at the bottom of the screen, provides valuable status and feedback of the Total Control system. The four sections of the **Status Bar** are determined by the system programmer.

Status Bar Descriptions	
Sunrise Time	Updated at midnight every day, this shows the sunrise time for the next day.
Sunset Time	Updated at midnight every day, this shows the sunset time for the next day.
URC Thermostat Temperature	Displays the current temperature status based upon the internal sensor, optional wired sensor, or the average temperature of both when a THZ-100 (URC's Thermostat) is included in your home.
Alarm Clock	Displays an alarm clock icon and the next scheduled time/day when the room being controlled has an **Alarm** that is set to activate.
Surround Mode	Displays the current **surround mode** when used with URC's DMS-AV Surround Processor.
Room Linked Status	Displays a link acknowledgment and icon whenever the chosen room/area is **"linked"** to other rooms.
Weather Alerts	Based on the current location entered by the system programmer, the words **"Weather Alert"** appears if an automatic alert is received via the Internet.
Vacation Mode	Displays **"Vacation Mode: ON"** when activated.

Rooms Menu

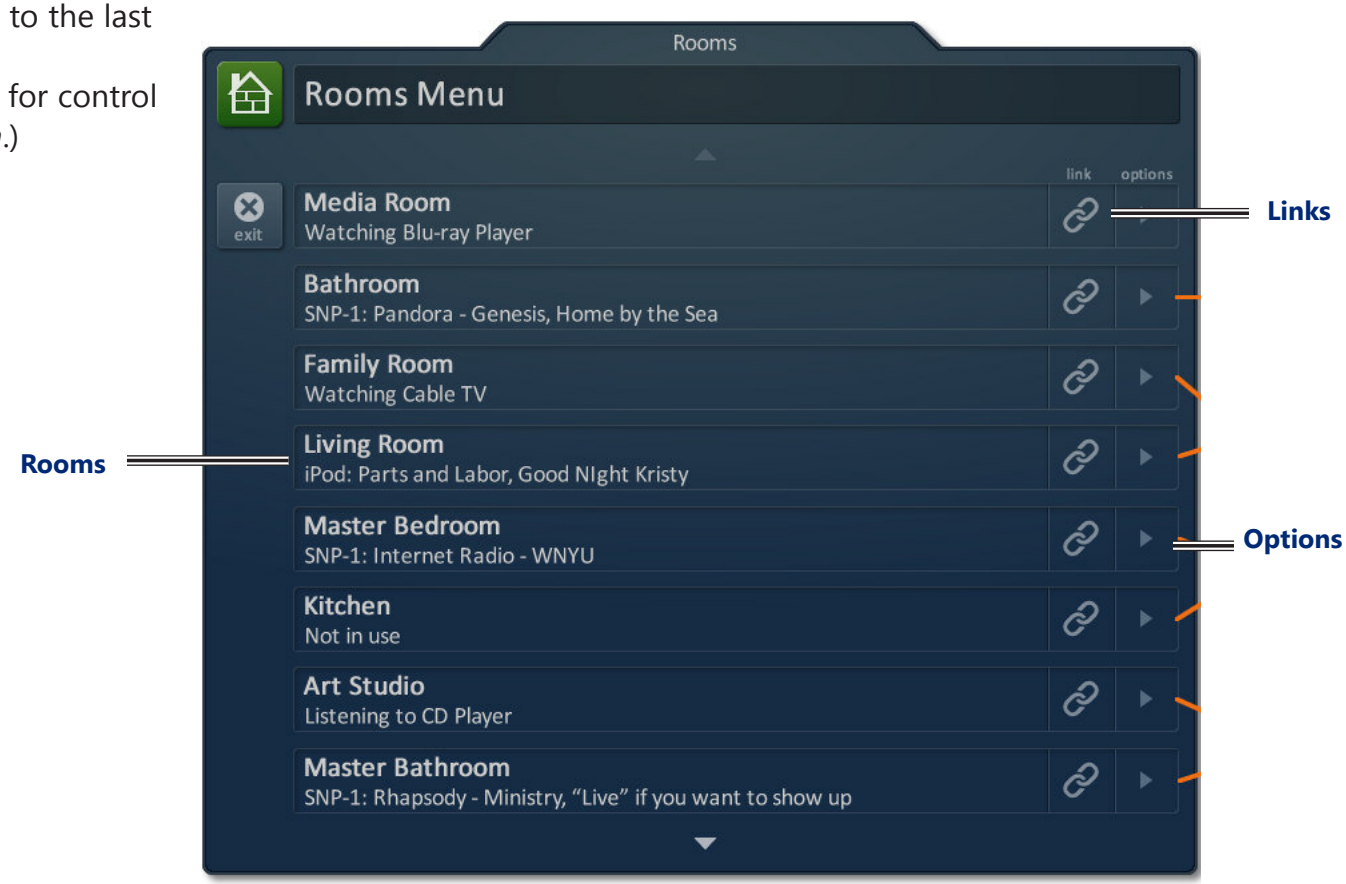
The **Rooms Menu** offers the user control of every room throughout the home. It is now easier to turn off lights throughout the home while in the Master Bedroom.

The **Rooms Menu** is used to:

- **Temporarily Link** rooms in a Total Control DMS system. This allows all of the linked rooms to listen to the same audio source and join the volume commands into a single interface.
- **Monitor** the status of other rooms in the Total Control project.
- **Control** any other room in a Total Control project as if it were a remote in that room. This is dependent upon the programming done by the Custom Installer.

Room List Buttons

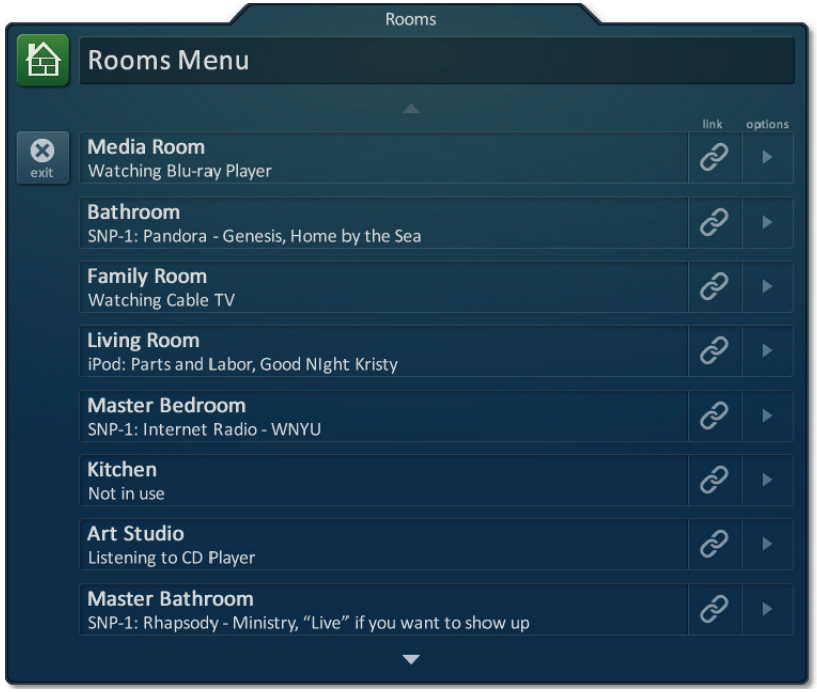
- Each room listing will have an associated box and action buttons.
- The **Exit** button will return the user to the last screen used.
- Selecting the room name will allow for control of that room (see *Selecting a Room*.)



Initial View (Room Monitoring)
When the **Rooms Menu** opens up, the room list populates with all of the rooms in the Total Control project. Each room displays its status so the user can visually see what is "going on" in a specific location.

Selecting a Room (Room Control)
Selecting any room from the room list will allow the MRX-20 to control that room, as if it were physically in that location.

Returning the MRX-20 to control the room where it is physically located requires accessing the Rooms Menu and selecting the appropriate room.



Linking Rooms (DMS Audio only)
Selecting the **Link Rooms** button will open up the Link Rooms screen with the current room already selected. Only rooms/areas that are part of the DMS family of products will appear.

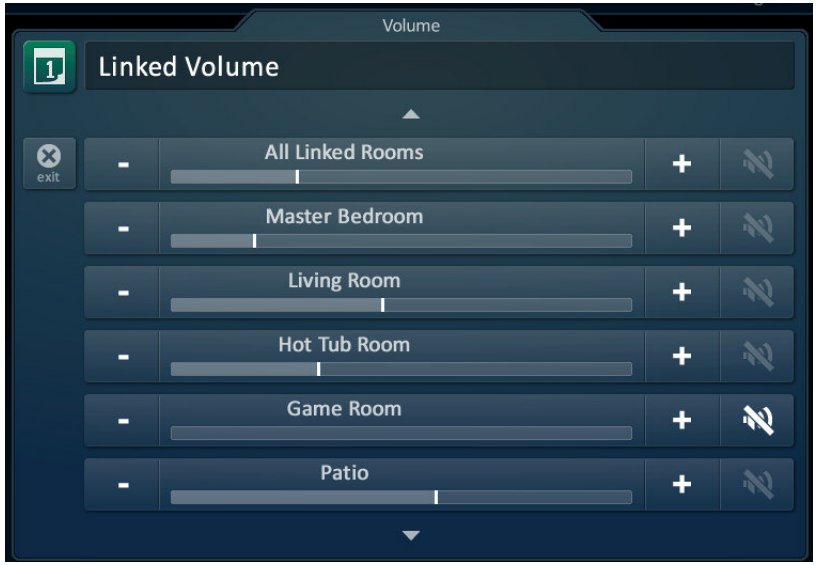
- Select, using the **check boxes**, the rooms that you would like to LINK. Pressing the check box will alternately "check" and"uncheck" it.
- The **Go Back** button will cause the screen to revert to the **Room Menu** without making any changes.
- The **Done** button will temporarily save the checked rooms as a **linked group** that can be controlled from any of the linked rooms.

Linked rooms are saved until the power is turned OFF, or the user manually unlinks the room(s).

Using Linked Rooms

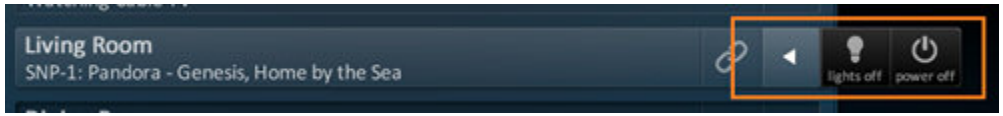
Once a room is linked, pressing the volume or mute buttons for that room will cause the **Linked Rooms Volume Pop-Up** to display. This menu will display the volume levels for all rooms in the temporary group.

- Selecting **All Linked Rooms** results in the volume and mute commands to operate ALL rooms (e.g. Volume Up causes the volume in all linked rooms to rise simultaneously, and at the same rate).
- Selecting an individual room in the **Linked Room List** allows the volume and mute buttons to adjust sound for the room chosen.



Room Options

Selecting the **Room Options** button causes the menu to expand and offers the user various options to control the room.



Room Option Descriptions	
Lights Off	Displays a **light bulb icon** when URC controlled lights are located in the selected room. Selecting this icon will issue a ***"lights off"*** command for the chosen room.
Power Off	The default for this command is to turn off all audio and video devices in that room, however this may have been altered by the system programmer. Selecting the **power icon** will issue a ***"room off"*** command for the selected room.

Device Menu

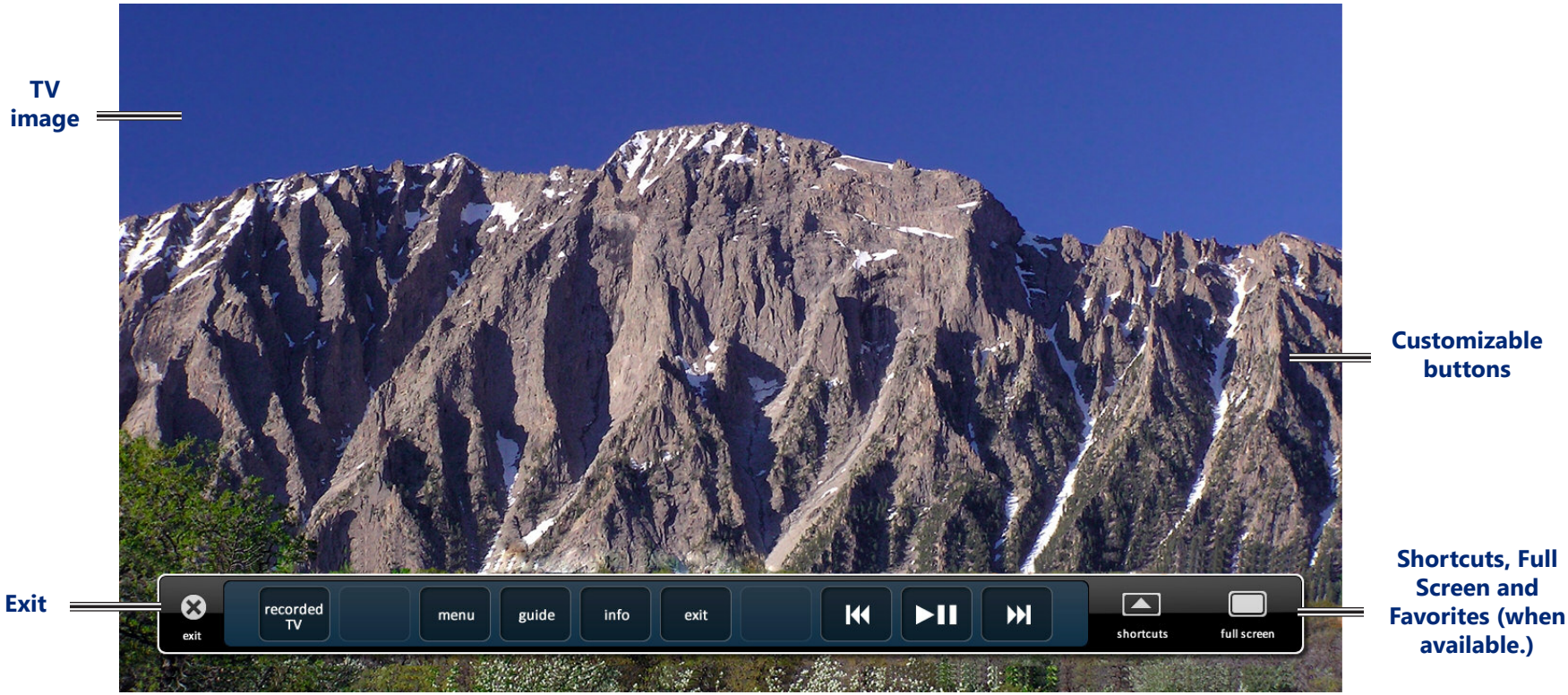
When the basic commands found in the Quick Bar do not include the action you need to perform, use the **Device Menu** to access all of that device's commands. For example, your custom programmer may not have included an EJECT command in the DVD's Quick Bar menu. Use the **Device Menu** to see additional commands like ejecting a DVD.

While watching or listening to a device, such as a Cable or CD, access the **Device menu** with a TRG-100/200 remote by pressing the **Umotion** button or the Full Screen button from the Quick Bar menu. Move the remote around the on-screen interface to reveal the on-screen cursor. Hover over a button and press the **Umotion** button again to select.

Device Menu Descriptions	
Exit	Closes the **Device** menu.
Customizable Buttons	These buttons vary based on the type of device (Cable, DVD, etc...) A maximum of ten buttons can be modified by your URC Professional Installer.
Shortcuts	Opens the **Shortcuts** menu with a list of user selected favorite devices.
Favorites	This option is only available when using a device with stored favorites. Pressing **Favorites** will close the **Device menu** and open the **Favorite channel menu**.
Quick Bar	Press to toggle between the **Quick Bar** and **Device's Full Screen menu.**
TV image	Select the **TV image** to close the full screen Device Menu.
More Device Buttons	The full screen option provides the customer with **more device commands** that are unavailable using the Quick Bar menu

Quick Bar Menu

While watching or listening to a device, such as a Cable or CD, access the Quick Bar menu with a TRG-100/200 remote by pressing the Umotion button. The Quick Bar menu opens. Move the remote around the on-screen interface to reveal the on-screen cursor. Hover over a button and press the Umotion button again to select.



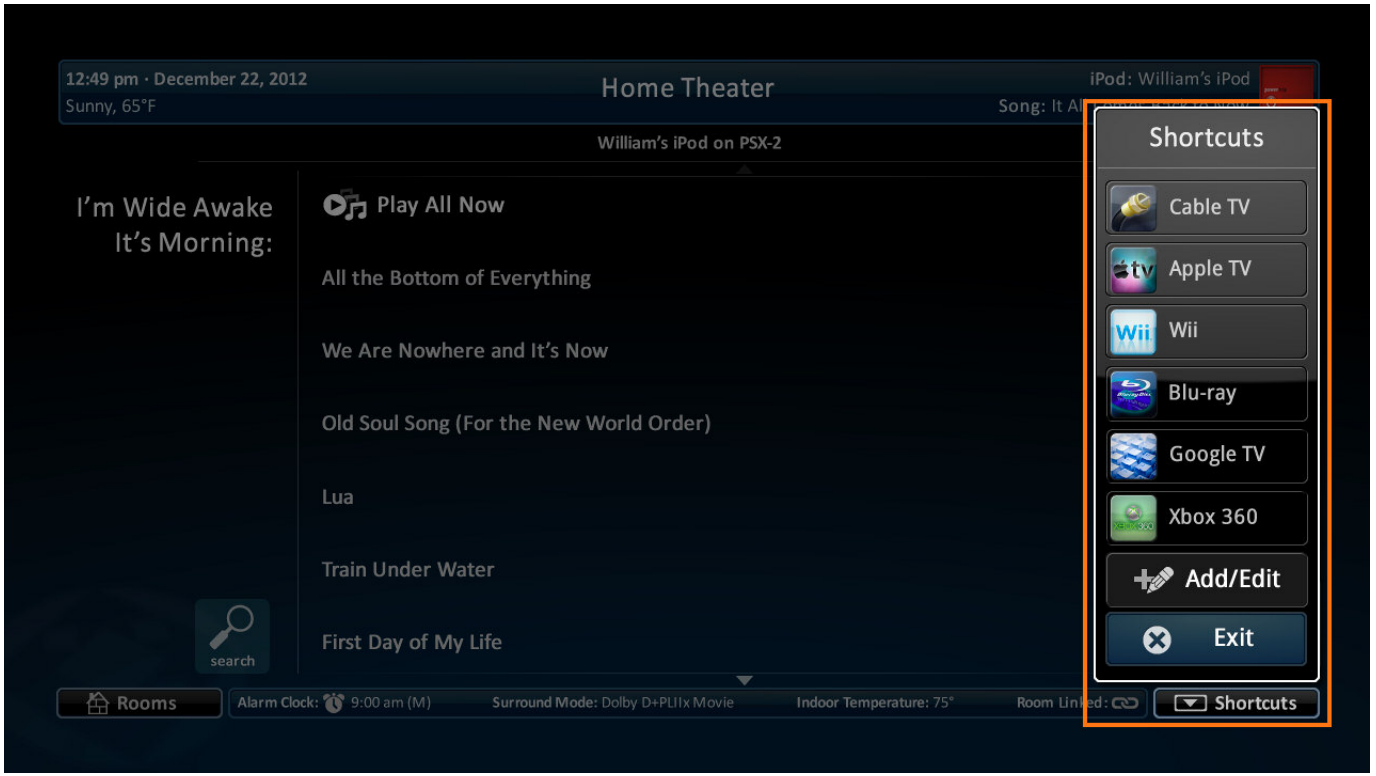
The options shown above are customized by your URC Professional Installer.

Quick Bar Menu Descriptions	
Exit	Closes the **Quick Bar** menu.
Customizable Buttons	These buttons vary based on the type of device (Cable, DVD, etc...) A maximum of ten buttons can be modified by your URC Professional Installer.
Shortcuts	Opens the **Shortcuts** menu with a list of user selected favorite devices.
Favorites	This option is only available when using a device with stored favorites. Pressing the **Favorites** button closes the Quick Bar and opens the **Favorite channel menu**.
Full screen	Press to toggle between the **Quick Bar** (current view) and device's **Full Screen menu.**
TV image	Select the **TV image** close to the Quick Bar Menu.

Shortcuts Menu

There are a maximum of six (6) shortcuts per room location. Remember, the MRX-20 can access any room in the Total Control system regardless of its physical location.

Only items that appear in the currently selected room are available to be added to the **Shortcuts** menu.



Using the Shortcuts Menu

With the TRG-100/200 remote, open the **Shortcuts menu** by pressing the **Shortcuts** icon.

If nothing is selected after 60 seconds, the Shortcut menu closes and performs the same action as selecting the item on the main menu.

Editing Shortcuts

To add devices/activities to **Shortcuts**, select the **Add/Edit** button in the **Shortcut** menu.

This opens the **Shortcuts Add/Edit** screen, which allows the user to scroll through all of the devices/activities available to that room. Select up to 6 devices/activities by selecting the **check box** shown for each possibility. Once all 6 are chosen, the remaining devices/activities will be grayed out to show there are no more choices to be made. Press the **Save** icon to save your selections.

Reorder devices by selecting the **reorder** icon at the top of the Add/Edit window; this opens the Reorder Items list.

If you would like to change the order in which the activities/devices appear, drag the items, using the **"grabber"** on the right side of the boxes to rearrange them.

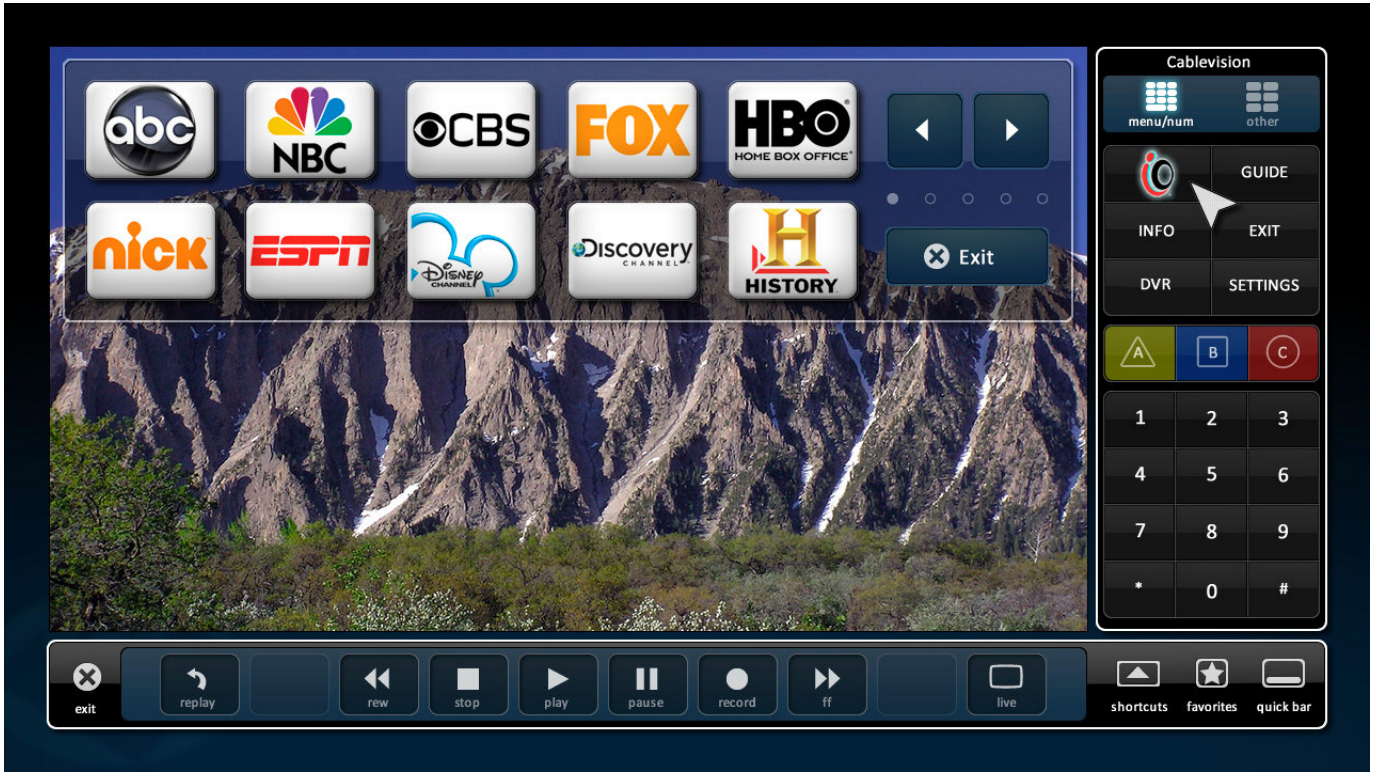
If you would like to remove an item from the list, select the **X** (delete) icon to the left of the device/activity name.

Selecting the **Go Back** option will revert to the **Add/Edit** screen without making any changes.

Selecting the **Save** option will make the requested changes and revert back to the **Add/Edit** screen.

Favorites Menu

While watching a device such as Cable or Satellite, press the **Umotion** button on the TRG-100/200 remote. Press the **Favorites** button, from either the Quick Bar or Device menu, to access the favorite channel list.



The options shown above are customized by your URC Professional Installer.

Add a Slideshow using Photo Viewer

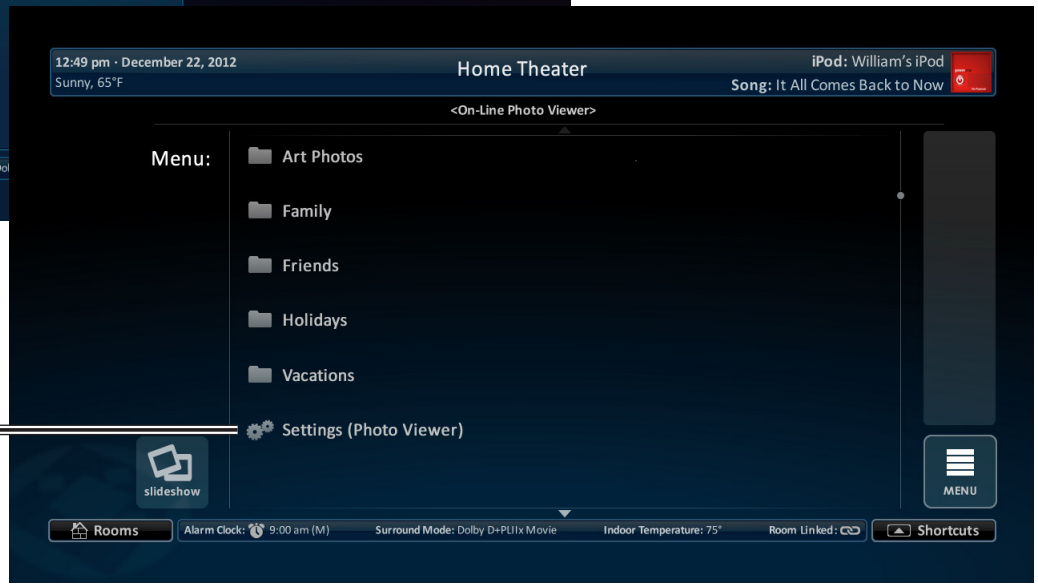
Easily integrate your stored images via Google+. Simply add the user credentials and select a folder for the MRX-20 to showcase your images.

> The URC Professional Installer **MUST ENABLE** this feature before proceeding.

Configure Photo Viewer

1. Select the **Photo Viewer** icon from the Main Menu. The Photo Viewer menu opens.

2. Select **Settings (Photo Viewer)** to open the Settings page.



3. Select **On-Line Service Username and Password.**

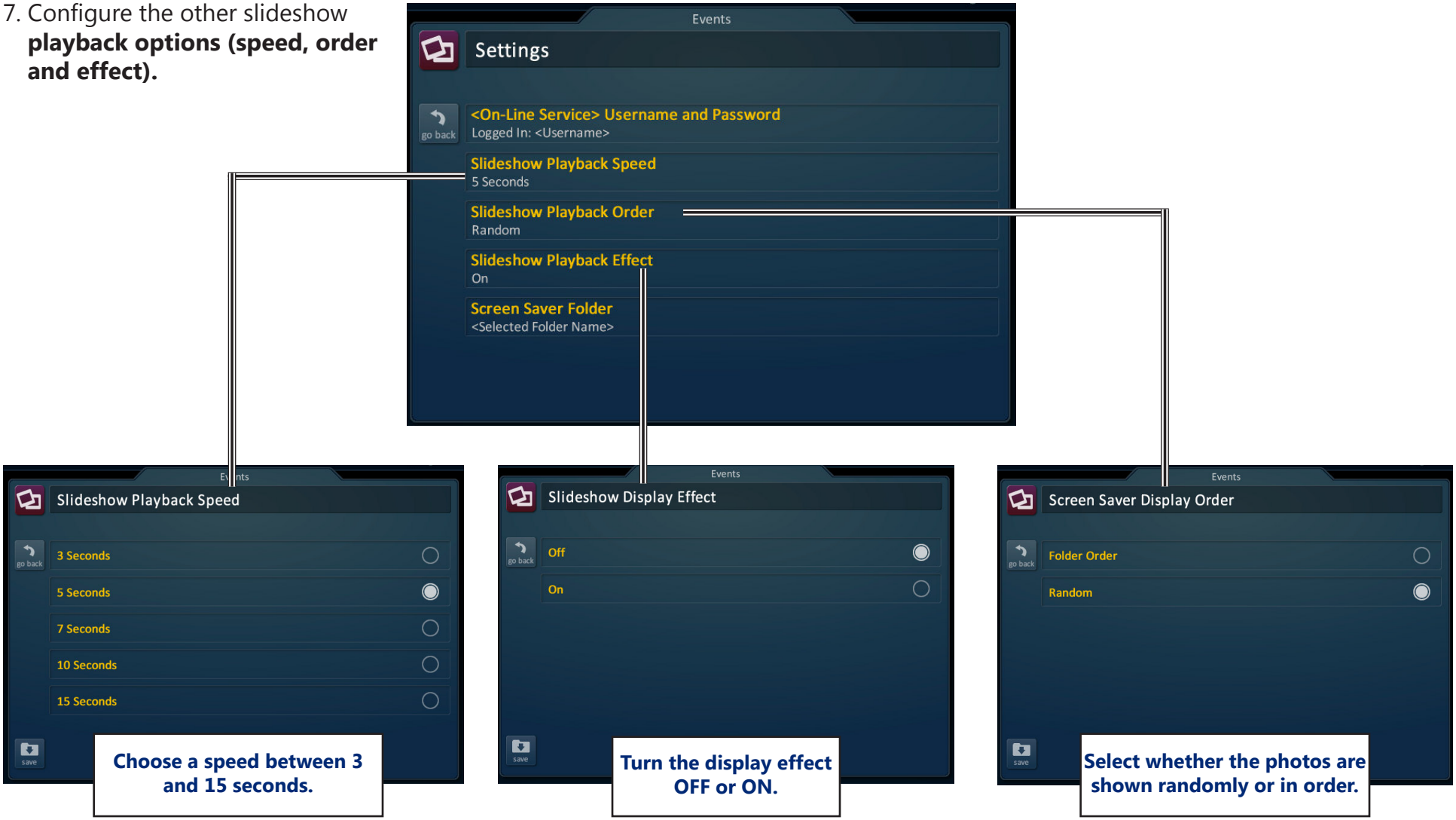
4. Enter the Google+ user credentials by selecting **Username** and **Password**. Save the account credentials then press **Validate Account**.

   Press **Go Back** to return to the Settings menu.

5. Select **Screen Saver Folder** to open its respective menu.

6. Select the desired photo folder checkbox and **Save.**

7. Configure the other slideshow **playback options (speed, order and effect).**



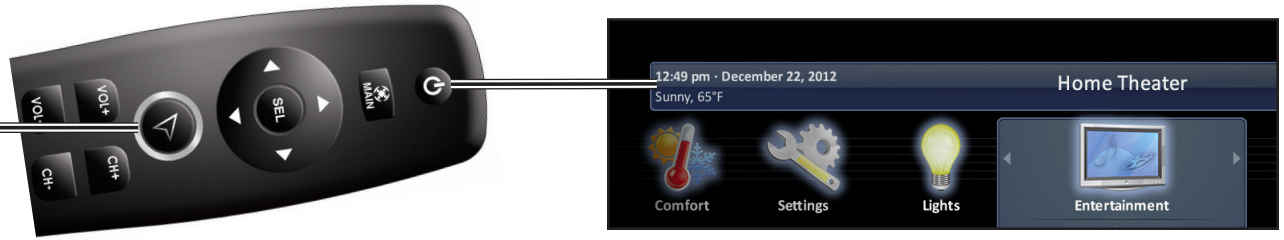
8. Follow the MRX-20 screen saver settings step on page 21 to turn ON *Use Photo Slideshow as Screensaver.* The photo slideshow will begin to work after the designated screen saver time.

Chapter 3: Settings and More...

Adjusting the Settings on the MRX-20

Access the Settings menu using the TRG-100/200 Umotion button to select the Date/Time area.

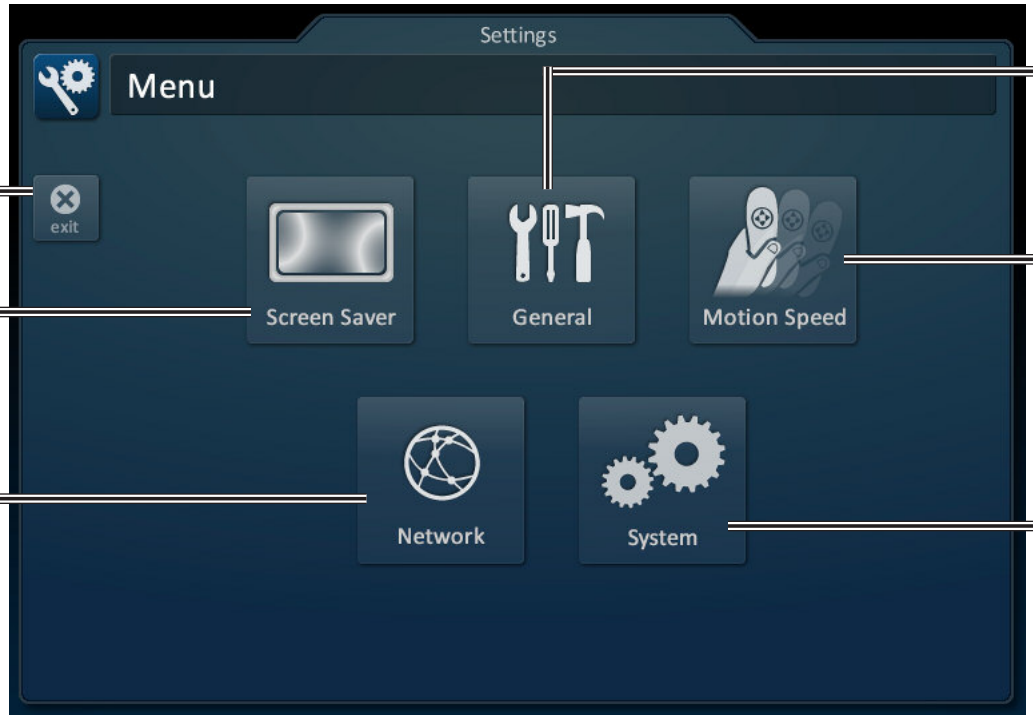
Press the **UMotion** button on the TRG-100/200 then **select** the **Date/Time** on-screen area.



Settings Menu

The MRX-20 Settings Menu contains user adjustable configuration settings. Select an option by using the 5-way navigation buttons (up, down, left or right) or hover over an icon. If no icon is pressed for 45 seconds, the unit will return to the Main Menu screen.

The **Settings** Menu is broken down into the following categories:



Exit: *Closes the Settings Menu.*

Screen Saver: Manage the type of screen saver (Generic or Photo slideshow) to use and when it should turn on.

Network: View information about the connected network.

General: Contains settings for Date, Time, and Temperature scale.

Motion Speed: Adjust the TRG-100/200 on-screen reaction speed.

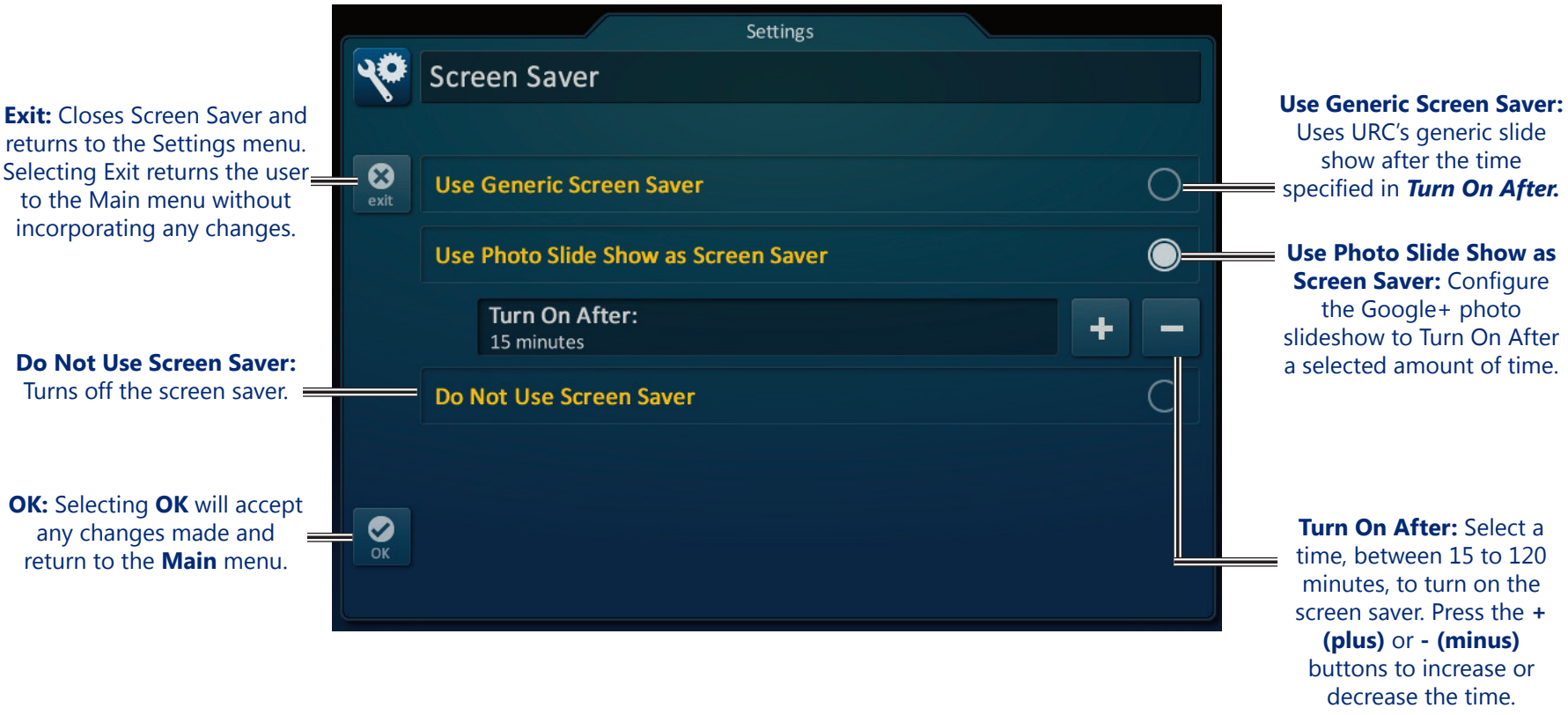
System: Quickly view the Memory Usage, Firmware Version and other details about the MRX-20.

Screen Saver

The **Screen Saver** settings menu has three configuration options; use the system's screensaver, use your own photos or do not use a screen saver.

- **Use Generic Screen Saver:** Selecting this option enables the system's default images.
- **Use Photo Slide Show as Screen Saver:** Select a Google+ account folder to view stored images and set a turn ON time.
- **Do Not Use Screen Saver:** Screen Saver is turned OFF.

Enable the features below by selecting the radio buttons found on the right side of each property.


Settings
Screen Saver
exit
Use Generic Screen Saver
Use Photo Slide Show as Screen Saver
Turn On After:
15 minutes
Do Not Use Screen Saver
OK
Exit: Closes Screen Saver and returns to the Settings menu. Selecting Exit returns the user to the Main menu without incorporating any changes.
Do Not Use Screen Saver: Turns off the screen saver.
OK: Selecting **OK** will accept any changes made and return to the **Main** menu.
Use Generic Screen Saver: Uses URC's generic slide show after the time specified in ***Turn On After.***
Use Photo Slide Show as Screen Saver: Configure the Google+ photo slideshow to Turn On After a selected amount of time.
Turn On After: Select a time, between 15 to 120 minutes, to turn on the screen saver. Press the **+ (plus)** or **- (minus)** buttons to increase or decrease the time.

General

The **General** settings screen allows for setting the Date, Time and Temperature scale (Fahrenheit/Celsius). To view more of this settings menu, press the down arrow or use the Umotion capability of your TRG-100/200 remote to hover over the down arrow at the bottom of the screen.

Using the arrow found at the left and right sides of each property (hour, minutes, month, etc.) adjusts the value up, or down, respectively.

Exit: Closes Screen Saver and returns to the Settings menu. Selecting Exit returns the user to the Main menu without incorporating any changes.

OK: Selecting **OK** will accept any changes made and return to the **Main** menu.

Arrow: Indicates there are more options to view.

Motion Speed

Adjust the TRG-100/200 Umotion speed by selecting one of the options (slow, medium or fast) on the MRX-20 user interface.

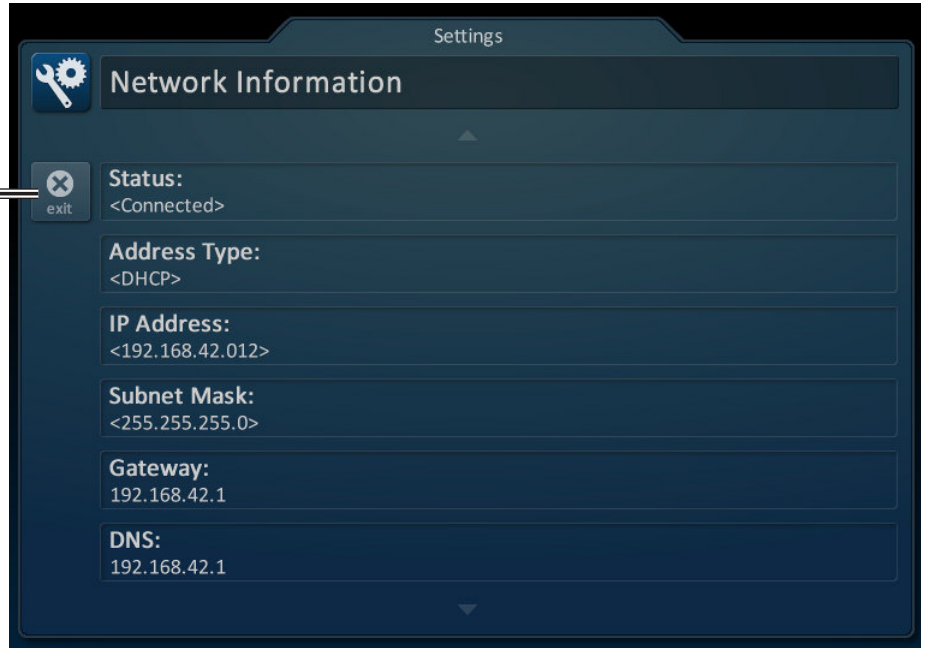
OK: Selecting **OK** will accept any changes made and return to the **Main** menu.

Network

This option will show important information about the current network, its settings and give the ability to edit the IP address of the MRX-20.

Exit: Selecting **Exit** will return the user to the **Main** menu.

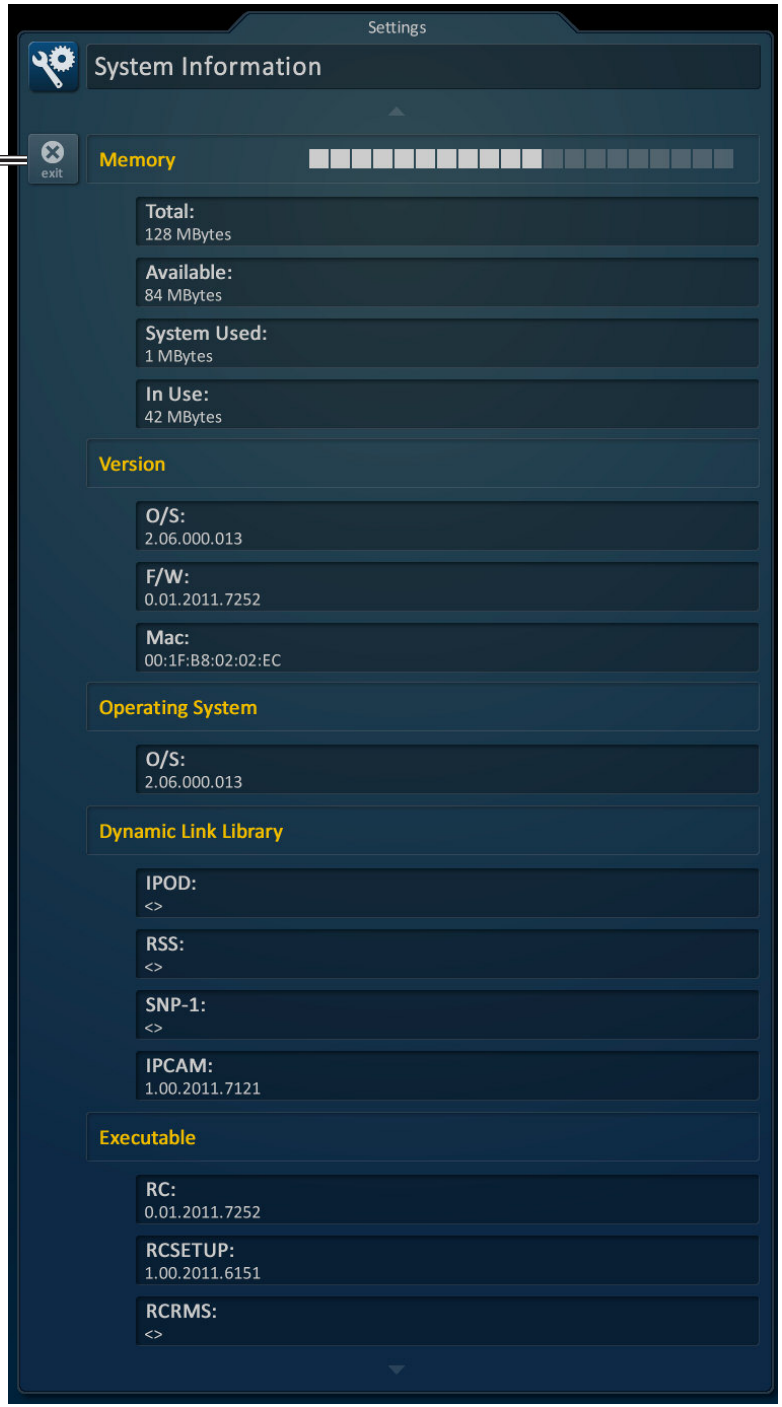
The **Network Information** screen will display the **status** of the network connection (connected, not connected), current **address type** (DHCP or Static), **IP address, Subnet Mask, Gateway** and **DNS.**



System

Although none of the information can be modified, these **System Pages** will show important information about your MRX-20. These pages should only be needed by a URC Professional Installer, or a technical support representative.

Exit: Selecting **Exit** will return the user to the **Main** menu.



Installing the MRX-20

Physical Installation of the MRX-20 and Accessories

The MRX-20 Advanced Network System Controller can be installed anywhere in the home with a Cat-5 cable. Multiple MRX-20's can be installed, where the first unit is the master controller and the other seven units are auxiliary controllers. Once installed it can then be programmed to operate all local equipment using IR, RS-232, Relays or 12V Triggers. It can either be placed on top of the equipment or rack mounted (using the optional rack-mount adapter.) It must receive power using the included power supply. All IR emitters, HDMI, RS-232 cables and sensors are plugged into their respective ports on the back. Wires are connected to the detachable connectors for use of the relays.

Network Installation

1. Connect an **Ethernet cable (RJ45)** to the rear of the MRX-20 and into the network router or switch.
2. Connect your **laptop** into the same network router as the MRX-20.
3. **Plug flashers** into any of the ten flasher ports on the rear of the MRX-20.

Locating the MAC Address

The network **MAC Address** is a unique number that identifies a device on a network. By listing the MAC address during programming, URC network devices can use DHCP. The MAC address of the MRX-20 can be discovered over the network through programming. The unit's MAC address can be found on a label on the side of the unit (left side when facing rear).

Optimizing IR Flasher Levels

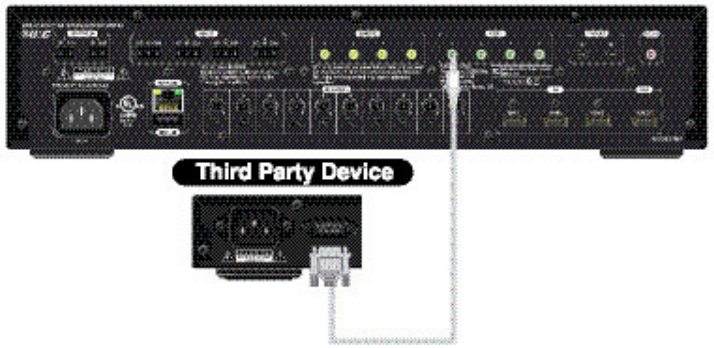
Test a few commands for each device before fixing the flasher in place on the front panel of a device. Since Satellite Receivers and Cable Boxes are extremely sensitive to IR overload or saturation, you should test them thoroughly. Put up the cable or satellite on-screen guide and test the navigation arrows. Compare operation via RF to the original remote control. Operation should be identical. If operation is inconsistent or sluggish, lower the IR line output and/or reposition the flasher.

If you still have sluggish operation, check that the remote control is set to a particular LINE OUT, rather than ALL. When IR commands are sent to all the flashers in a cabinet, you can have difficulty adjusting the IR Output. Reprogram the remote control to send IR commands only via a specific (1-8) Line Output, then readjust the IR Line Output level.

1. **Connect** an **IR emitter** to each IR output and run the emitter wire to the front panel of each component. **DO NOT STICK** the emitter in place. ***Adjust*** the level first.
2. **Adjust** each of the **IR Output levels** with the included adjustment tool for best operation. If the component operates best at minimum level, but is still operating sluggishly or intermittently, move the emitter farther away from the component's IR sensor.

RS-232 Connection

The MRX-20 can operate equipment via **RS-232** communication. This allows ***discrete serial commands*** to be triggered from a Total Control remote and sent from the MRX-20 over the network connection. The signal is then sent to the device over proprietary URC RS-232 cables. These use either male or female DB-9 connections with standard pin-outs. Programming is done in the Accelerator software.



Using Sensors with the MRX-20

The MRX-20 can use the Total Control sensors **Video** (SEN-VID), **Voltage** (SEN-VOLT), **Audio** (SEN-AUD), **Current** (SEN-CMF), **Light** (SEN-LITE)**,** and **Contact Closure** (SEN-CCLS) to determine the power status and more of the equipment it controls. This can then be used to alter the function of a Macro by using IF/ELSE statements in the programming software.

Wiring to the Relay on the MRX-20

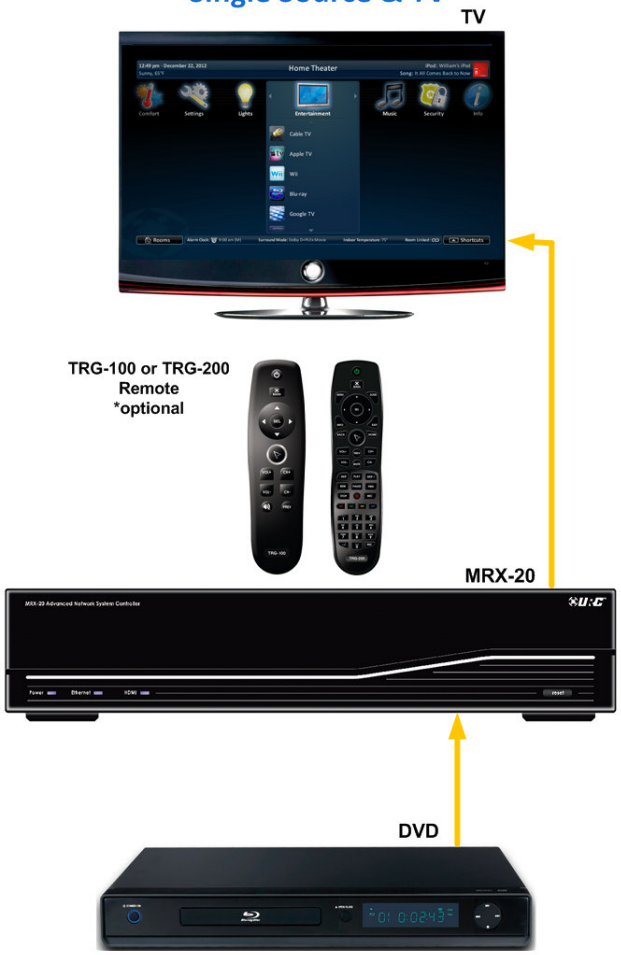
The MRX-20 has a **Relay** with three contacts, NO, NC, and COM. These can be used as dry contacts or to send a current to an electrical switch or motor for use with screens, blinds, curtains, etc.

The Relay can be used as either a latching contact or a momentary contact depending on the programming. The command to actuate the Relay is programmed using the Accelerator software and is sent from the MRX-20 when triggered by any Total Control system remote.

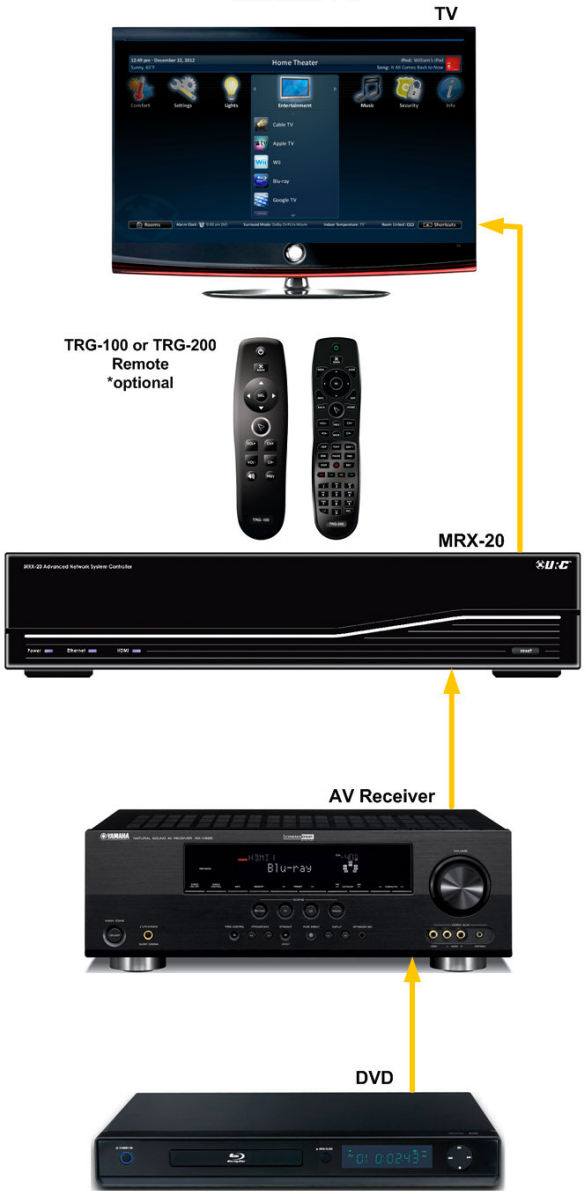
MRX-20 Applications

The following diagrams depict several installation options showcasing a single source, multiple sources and more. Each diagram shows the MRX-20, in its ideal location, as the last connected point before the television to gain optimum performance.

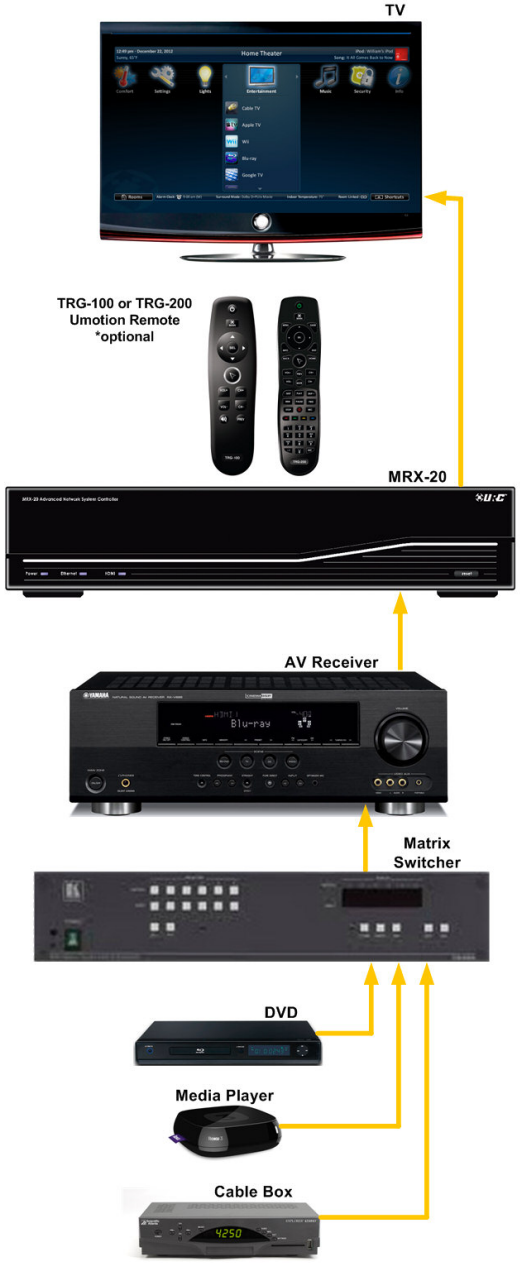
MRX-20 Application – Using With a Single Source & TV



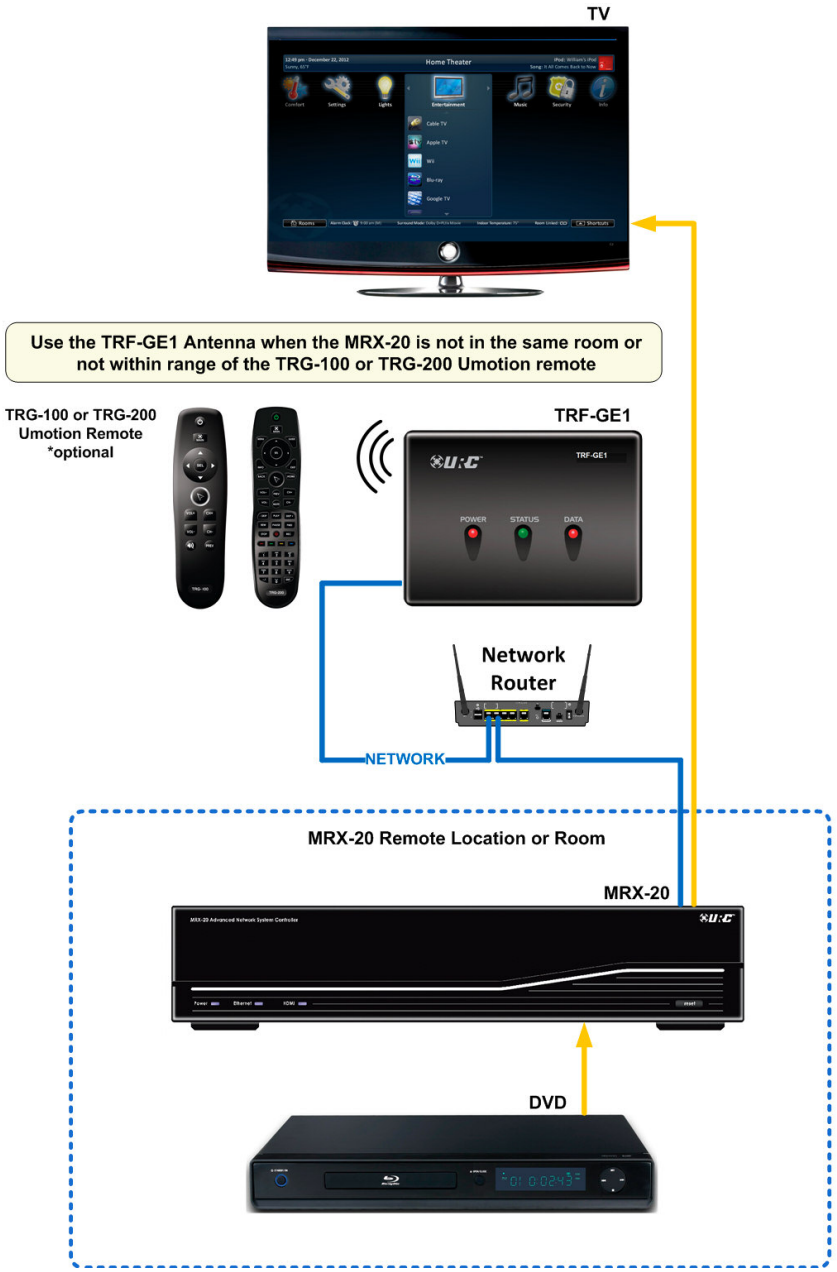
MRX-20 Application - Using With an AVR & TV



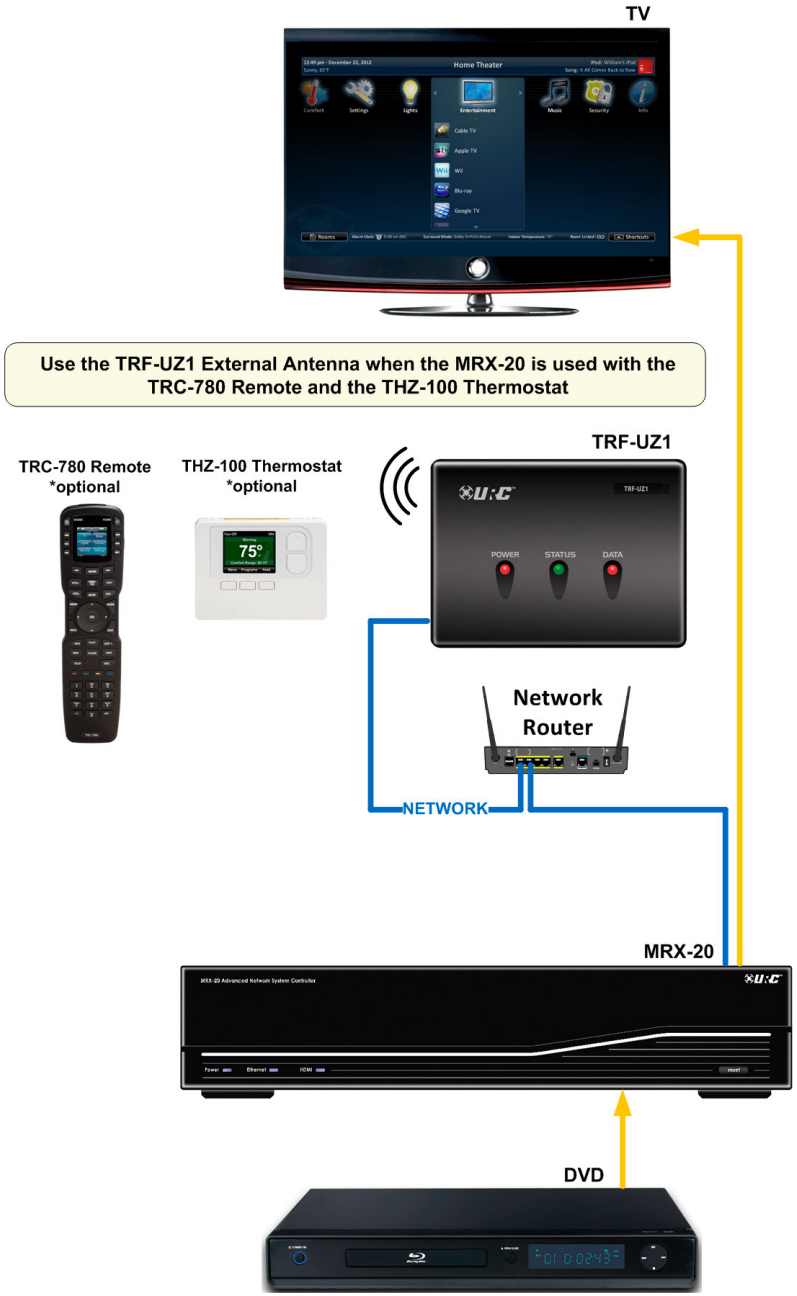
MRX-20 Application – Using With an AVR, Matrix Switcher & TV



MRX-20 Application – Using With a TRF-GE1 Umotion Antenna



MRX-20 Application – Using With a TRF-UZ1 External Antenna



Specifications

Microprocessor : ARM Cortex-A8 Core
Memory : 512MByte
Input & Outputs:

- IR : Ten adjustable output
- USB : One (for future use)
- Ethernet : One 10/100 RJ45 port (Indicator 2LED)
- RS-232 : Four, supporting TX, RX and GND
- Sensor : Four, supporting Video or Voltage sensing (requires URC sensors)
- Relays : Four, NO, NC or COM
- HDMI : Three Input , One Output

RF:

- Frequency : 2425-2475 MHz
- Range : 50 to 100 feet, depending upon the environment

Others

- Power Supply : AC 100-240V 50/60 Hz
- Weight : 7.2 lbs (3.3 Kg)
- Size : 17.04" x 8.70" x 3.70" (W X D X H)
- Environmental Condition : 0 - 40

Chapter 4: Warranty and EULA

Limited Warranty Statement

1. Limited Warranty and Disclaimers

Universal Remote Control, Inc. (“URC”) warrants that the URC equipment shall be free from defects in material and workmanship under normal usage for two (2) years from purchase when such is purchased from URC. This limited warranty is valid only in the United States of America. URC warrants that the software will substantially conform in any material respect to its functional specifications at the time of delivery. URC SHALL NOT BE LIABLE FOR OPERATIONAL, TECHNICAL OR EDITORIAL ERRORS AND/OR OMISSIONS MADE IN THE URC DOCUMENTATION. URC DOES NOT WARRANT THAT THE URC SOFTWARE IS BUG-FREE OR ERROR FREE OR THAT THERE ARE NO ERRORS/BUGS IN THE URC SOFTWARE.

URC warrants that at the time of purchase the URC equipment and the URC software complied with all applicable regulations and policies of the Federal Communications Commissions (“FCC”) regarding electromagnetic interference caused by electronic/computing devices and to the extent that the URC equipment and/or the URC software fails to so comply, URC shall, at its own expense, take all reasonable measures to promptly cause such to comply.

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WITHOUT IN ANY WAY LIMITING THE GENERALITY OF THE OTHER PROVISIONS HEREIN, WARRANTY DOES NOT COVER: (I) DAMAGE FROM MISUSE, NEGLECT OR ACTS OR NATURE, (II) MODIFICATIONS, (III) INTEGRATION WITH THIRD PARTY CONTENT (IV) BEYOND THE WARRANTY PERIOD AND/ OR FAILURE TO FOLLOW URC WARRANTY CLAIM PROCEDURE.

The warranty limitations and warranty disclaimers may not apply to end user in whole or in part, where such are restricted or excluded

by applicable law and such shall apply to the maximum extent permitted by applicable law.

In the event of any warranty claim, URC will, at its sole option, repair the URC equipment using new or comparable rebuilt parts, or exchange the URC equipment for new or rebuilt equipment. **In the event of a defect, these are the end user's exclusive remedies.**

All the URC equipment returned for service, exchange or repair require an RGA number. To obtain an RGA number, you must complete a Return Request Form which you may obtain by calling (914) 835-4484 or contacting URC at returnrequest@universalremote.com. To obtain warranty service, end user must deliver the URC equipment, freight prepaid, in its original packaging or packaging affording adequate protection to URC at 420 Columbus Avenue, Valhalla, NY 10595. It is end user's responsibility to backup any macro programming, artwork, software or other materials that may have been programmed into the unit. It is likely that such data, software, or other materials will be lost during service and URC will not be responsible for any such damage or loss. A dated purchase receipt, bill of sale, installation contract or other verifiable proof of purchase is required. For the URC equipment support and other important information, please visit URC's website available at www.universalremote.com or call the Customer Service Center at (914) 835-4484.

This limited warranty only covers the URC equipment issues caused by defects in material or workmanship during ordinary consumer use. It does not cover product issues caused by any other reason, including but not limited to product issues due to commercial use, acts of God, third-party installation,misuse, limitations of technology, or modification of or to any part of the URC equipment. This limited warranty does not cover the URC equipment sold as used, as is, refurbished, so called "B stock" or consumables (such as batteries).This limited warranty is invalid if the factory applied serial number has been altered or removed from the URC equipment. **This limited warranty specifically excludes the URC equipment sold by unauthorized resellers.**

With the exception of URC's IR-only, broad-based consumer remotes, none of URC's PC programmable remotes or any of our Total Control® whole-house equipment are authorized for online internet sales. Buying URC's PC programmable remotes or any of our Total Control® whole-house equipment online means buying equipment that does not have a URC's limited warranty. Such equipment is not eligible for URC tech support or software support, either.

2. URC'S Limitations of Liability

IN NO EVENT SHALL URC BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY KIND OR LOSS OF PROFITS OR BUSINESS OPPORTUNITY, EVEN IF URC IS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

IN NO EVENT SHALL URC BE LIABLE FOR LOSS OF OR DAMAGE TO DATA, COMPUTER SYSTEMS OR COMPUTER PROGRAMS. URC'S LIABILITY, IF ANY, FOR DIRECT DAMAGES OF ANY FORM SHALL BE LIMITED TO ACTUAL DAMAGES, NOT IN EXCESS OF AMOUNTS PAID BY END USER FOR THE URC EQUIPMENT.

IN NO EVENT SHALL URC BE LIABLE FOR ANY EVENTS BEYOND ITS CONTROL, INCLUDING ANY INSTANCE OF FORCE MAJEURE. IN NO

EVENT SHALL URC BE LIABLE FOR THE ACTS OR OMISSIONS OF END USER OR ANY THIRD PARTY.

THE LIMITATIONS OF LIABILITY MAY NOT APPLY TO END USER IN WHOLE OR IN PART, WHERE SUCH ARE RESTRICTED LIMITED OR EXCLUDED BY APPLICABLE LAW AND SUCH SHALL APPLY TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW.

URC SHALL NOT BE HELD RESPONSIBLE FOR THE STATEMENTS MADE BY OTHERS.

SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO END USER. THIS LIMITED WARRANTY GIVES END USER SPECIFIC LEGAL RIGHTS AND END USER MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR JURISDICTION TO JURISDICTION.

End User Agreement

The terms and conditions of the End User Agreement available at www.universalremote.com/eua.php shall apply.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning!
Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Note : The manufacturer is not responsible for any Radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

FCC Caution
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference,
and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Federal Communication Commission (FCC) Radiation Exposure Statement
The device and the antenna for this device must be installed to ensure a minimum separation distance of 20 cm or more form a person's body. Other operating configurations should be avoided.

Declaration of Conformity

Company Name	:	OH SUNG ELECTRONICS CO., LTD.
Company Address	:	#181 GONG DAN-DONG, GUMI, GYEONG BUK, REPUBLIC OF KOREA
Contact Information	:	Phone: +82-54-468-7281, Fax: +82-54-461-8368
Brand Name	:	UNIVERSAL remote control
Product Name	:	Advanced Network System Controller
Model Name	:	MRX-20

This product herewith complies with the requirements of EMC Directive (2004/108/EC) and R&TTE Directive(1995/5/EC) issued by the Commission of the European Community

Compliance with these directives implies conformity to the following European Community

- EMC Directive
  - EN 55022 (2010)
  - EN 55024 (2010)
  - EN 61000-3-2 (2006) + A1 (2009) + A2 (2009)
  - EN 61000-3-3 (2008)
  - AS/NZS CISPR 22 (2009) + A1(2010)
- R&TTE Directive
  - EN 60950-1(2006)+A11(2009)+A1(2010)+A12(2011)
  - ETSI EN 62479(2010)
  - ETSI EN 50383(2010)
  - ETSI EN 301 498-1 V1.9.2 (2011)
  - ETSI EN 301 498-17 V2.2.1(2012)
  - ETSI EN 300 328 V1.8.1(2012)

List of test reports and/or certificate verified compliance with the standards above

- EMC Directive
  - Report No.
  - Testing Laboratory : Gumi College EMC Center
- R&TTE Directive
  - Certificate No.
  - Certificate Body : SIEMIC (No. 2200)

Date of issue : Dec. 19, 2014

Name and signature of authorized person : Quality Assurance Team

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www.universalremote.com

OCE-0141A Rev 01